

REMARKS

Status Summary

The Examiner has rejected all of pending Claims 1-47 in the Official Action. Applicant has canceled Claims 2, 9, 21-24, 26, 33, and 44-47. Applicant respectfully requests reconsideration and allowance of all pending Claims 1, 3-8, 10-20, 25, 27-32, and 34-43 in view of the following Amendments and Remarks.

I. Rejection of Claims 1-3, 6-8, 13, 21 and 23 Under 35 USC §102(b) as Anticipated by Watkins et al. U.S. 5,165,979

The Examiner has rejected Claims 1-3, 6-8, 13, 21 and 23 under 35 USC §102(b) as anticipated by Watkins et al. upon the contention that Watkins et al. teaches a three-dimensional (containing projections) nonwoven wherein polypropylene fibers of one micron to 100 microns are disclosed. Applicant respectfully traverses the rejection.

Applicant notes that Watkins et al. merely teaches a web formed from melt-blown polypropylene fibers wherein fibers are blown onto a pre-form for use as a wipe material and the wipe material does not appear to possess any recovery capability. The fibers are deposited onto the pre-form surface to form the melt-blown web but are not molded in any manner whatsoever.

By contrast, Applicant's invention as now claimed calls for a three-dimensional flexible non-woven fabric formed from a flexible non-woven substrate that has been processed through thermo-forming or calender molding equipment to form compressible projections which return to their shape after being substantially

compressed. Further, the non-woven substrate is expressly claimed as a non-meltblown non-woven fabric manufactured from spun-bonded or melt-bonded filaments and/or fibers with a diameter of less than 100 microns and having an anisotropy ratio f_p between $-\frac{1}{2}$ to $+\frac{1}{2}$. In no manner can Watkins et al. be contended to teach the applicant's inventive deep molded non-woven fabric having a multiplicity of compressible projections which return to their shape after being substantially compressed as now claimed in the application.

II. Rejection of Claims 1-3, 6-8, 13, 17, 21, 23, 25-27, 30-32, 44 and 46
Under 35 USC §102(b) as Anticipated by Daponte U.S. 4,863,779

The Examiner has rejected Claims 1-3, 6-8, 13, 17, 21, 23, 25-27, 30-32, 44 and 46 Under 35 USC §102(b) as anticipated by Daponte upon the contention that Daponte teaches a three-dimensional (containing projections) nonwoven wherein polypropylene fibers having a diameter of less than 200 microns preferably .5 to 50 microns are used. The Examiner further contends that the nonwoven can be attached to another nonwoven as recited in Claim 25, and the Examiner interprets Claim 25 as being a composite formed of two networks, one being nonwovens, knits or braids and a second one being of nonwovens, and both networks being formed of fibers less than 100 microns. Applicant respectfully traverses the rejection.

Daponte does teach a composite of two or more layers that includes an elastic web, and preferably an elastic web sandwiched between two spun-bond or melt-blown web layers. The projections are puckers extending from the composite and are formed when the middle elastomer layer is allowed to recover so as to cause the

remaining two spun-bond or melt-blown web layers to pucker. In no manner whatsoever is the composite material disclosed in Daponte molded or otherwise formed in such a manner as to teach applicant's novel deep molded non-woven fabric having a multiplicity of compressible projections which return to their shape after being substantially compressed.

By contrast, applicant's invention as now claimed calls for a three-dimensional flexible non-woven fabric formed from a flexible non-woven substrate that has been processed through thermo-forming or calender molding equipment to form compressible projections which return to their shape after being substantially compressed. Further, the non-woven substrate is expressly claimed as a non-meltblown, non-woven fabric manufactured from spun-bonded or melt-bonded filaments and/or fibers with a diameter of less than 100 microns and having an anisotropy ratio f_p between $-1/2$ to $+1/2$. In no manner can Daponte be contended to teach the applicant's inventive deep molded non-woven fabric as now claimed in the application.

III. Rejection of Claims 1-8, 10, 12-13, 21, 23-24 Under 35 USC §102(b)
as Anticipated by Englebert et al. U.S. 4,741,941

The Examiner has rejected Claims 1-8, 10, 12-13, 21, 23-24 Under 35 USC §102(b) as anticipated by Englebert et al. upon the contention that this reference teaches a fibrous network formed of the recited fibers having a size of 1 to 100 microns. The Examiner further contends that the three-dimensional network can

have truncated cones of a height of .3mm to 25mm. Applicant respectfully traverses this rejection.

Applicant respectfully notes that the fibrous network disclosed in Englebert et al. comprises fibers that are melt-blown onto a shaped surface and which are not molded in order to obtain the projections extending therefrom. Furthermore, Englebert et al. teaches that the fibers are more parallel on the projections than on the remaining surface of the fibrous material. Englebert et al. in no manner teaches applicant's deep molded non-woven fabric comprising a multiplicity of compressible projections which return to their shape after being substantially compressed.

By contrast, applicant's invention as now claimed calls for a three-dimensional flexible non-woven fabric formed from a flexible non-woven substrate that has been processed through thermo-forming or calender molding equipment to form compressible projections which return to their shape after being substantially compressed. Further, the non-woven substrate is expressly claimed as a non-meltblown, non-woven fabric manufactured from spun-bonded or melt-bonded filaments and/or fibers with a diameter of less than 100 microns and having an anisotropy ratio f_p between $-\frac{1}{2}$ to $+\frac{1}{2}$. In no manner can Englebert et al. be contended to teach the applicant's inventive deep molded non-woven fabric as now claimed in the application.

IV. Rejection of Claims 1-8, 12, 15, 21, and 23 Under 35 USC §102(b) as
Anticipated by or in the Alternative Under 35 USC §103(a) as
Obvious over Kim et al. U.S. 5,731,062

The Examiner contends that Kim et al. discloses a fiber network formed of polyethylene terephthalate (PET) fibers of a diameter of at least about .1mm (100 microns). Further, the Examiner contends that a prima facie case of obviousness also exists if the ranges overlap and it would have been obvious to use smaller-sized fibers in order to form a softer three-dimensional network. Applicant respectfully traverses the rejection.

Kim et al. (which is assigned to the assignee of the instant application) discloses a thermoplastic three-dimensional fiber network formed from textile fabrics that have projections and optical depressions which are compressible and return to their original shape after being compressed. With the exception of a non-teaching and speculative reference to "non-woven textile fabrics" at column 2, line 60, of the Summary of the Invention, the entire patent application including the detailed description and claims teach and describe only knitted and woven constructions formed from fibers of at least 100 microns and normally much larger diameter fibers. Furthermore, Kim et al. teaches that the cross-over points of the fibers in the projections are not normally bonded at the cross-over points. By contrast, applicant's three-dimensional non-woven fabric comprising compressible projections which return to their shape after being substantially compressed comprises fibers of less than 100 microns in diameter. Applicant's fibers are also bonded (see claim 25) at the cross-over points since the construction is a molded construction and the fibers

have been processed through thermo-forming or calender molding equipment in order to form the compressible projections.

More specifically, applicant's invention as now claimed calls for a three-dimensional flexible non-woven fabric formed from a flexible non-woven substrate that has been processed through thermo-forming or calender molding equipment to form compressible projections which return to their shape after being substantially compressed. Further, the non-woven substrate is expressly claimed as a non-meltblown, non-woven fabric manufactured from spun-bonded or melt-bonded filaments and/or fibers with a diameter of less than 100 microns and having an anisotropy ratio f_p between $-\frac{1}{2}$ to $+\frac{1}{2}$. In no manner can Kim et al. be contended to teach or suggest the applicant's inventive deep molded non-woven fabric as now claimed in the application.

IV. Rejection of Claims 4-5, 9-12, 14-16, 18-20, 22, 24, 28-29, 33-43, 45 and 47, Under 35 USC §103(a) as Obvious over Daponte et al. in view of Kim et al.

The Examiner contends that Daponte teaches the invention substantially as recited except for the use of PET for the fibers and the size of the projections. Further, the Examiner contends that Kim et al. (assigned to the assignee of the present application) teaches to use PET fibers and that the size of the fibers and projections can be chosen to give the desired cushioning properties for a specific application. Thus, the Examiner reasons that it would have been obvious to one having ordinary skill in the art to take the teaching of Daponte to use PET fibers of the size recited and to form the projections of whatever shape and/or size is desired

in order to conform the article to the desired application motivated by the fact that Kim et al. teaches that these features can be chosen to give desired cushioning properties to the article. Applicant respectfully traverses this rejection.

Daponte only discloses a laminate or composite fabric formed of an elastomer web positioned between two spun-bond or melt-blown webs to produce pucker when the elastomer layer is allowed to contract to form the final laminate or composite fabric. The composite fabric is not molded as required by the present invention. Further, the novel three-dimensional flexible non-woven fabric comprising a multiplicity of compressible projections which return to their shape after being substantially compressed as taught by the present disclosure is in no way taught or suggested by the combination of the Daponte and Kim et al. references which would result in a laminate or composite fabric including an elastomer web between two spun-bonded or melt-blown webs which when allowed to shrink results in puckers to the surface of the laminate or composite fabric. The addition of the teachings of Kim et al. cannot correct the deficiencies of Daponte et al. in teaching or suggesting applicant's novel molded three-dimensional non-woven fabric having a multiplicity of compressible projections which return to their shape after being substantially compressed.

More specifically, applicant's invention as now claimed now calls for a three-dimensional flexible non-woven fabric formed from a flexible non-woven substrate that has been processed through thermo-forming or calender molding equipment to form compressible projections which return to their shape after being substantially

compressed. Further, the non-woven substrate is expressly claimed as a non-meltblown, non-woven fabric manufactured from spun-bonded or melt-bonded filaments and/or fibers with a diameter of less than 100 microns and having an anisotropy ratio f_p between $-\frac{1}{2}$ to $+\frac{1}{2}$. In no manner can the combination of Daponte and Kim et al. be contended to teach or suggest the applicant's inventive deep molded non-woven fabric as now claimed in the application.

Summary

Summarily, none of the references cited by the Examiner, either alone or in combination, teach applicant's novel molded non-woven fabric which utilizes thermoforming or calendering equipment to form compressible projections which return to their shape after being substantially compressed. The prior art references neither teach nor suggest the use of non-meltblown non-woven fabric formed by melt-bonding or spun-bonding of fibers with a diameter of less than 100 microns and with an f_p of $-\frac{1}{2}$ to $+\frac{1}{2}$ in order to achieve a soft and resilient hand non-woven molded fabric comprising a multiplicity of resiliently compressible projections defined by the non-woven molded fabric.

CONCLUSION

In light of the above amendments and remarks, it is respectfully submitted that the present application is now in proper condition for allowance, and an early notice to such effect is earnestly solicited.

Serial No.: 10/771,924

If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

DEPOSIT ACCOUNT

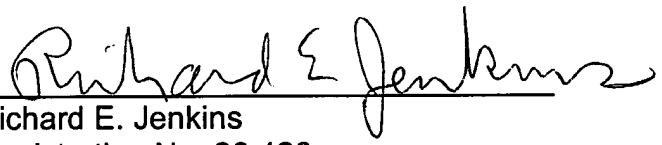
The Commissioner is hereby authorized to charge any fees associated with the filing of this correspondence to Deposit Account No. 50-0426.

Respectfully submitted,

JENKINS, WILSON & TAYLOR, P.A.

Date: February 10, 2005

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